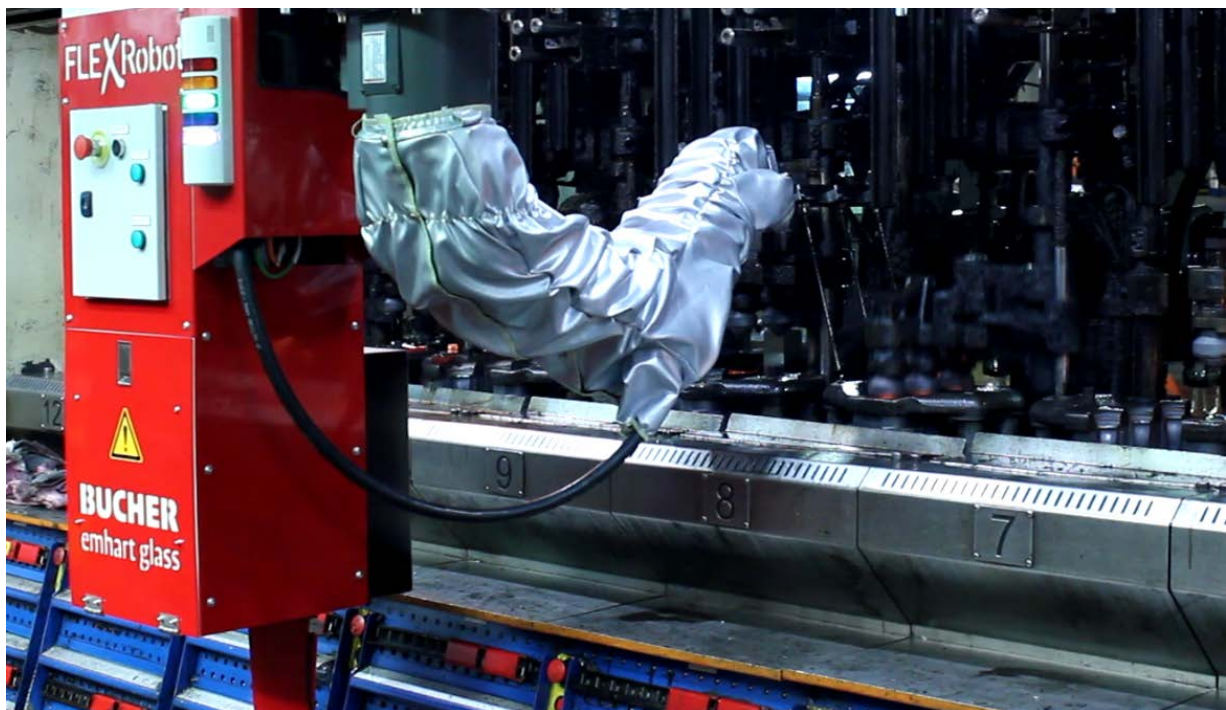


Technical News Bulletin

Steinhausen, April 2019



Bucher Emhart Glass FlexRobot

- Eliminates need for manual swabbing
- Increased output
- Reduces risk for accidents

Introduction

To eliminate manual swab of blank molds and neck-rings Bucher Emhart Glass introduces the FlexRobot system which is integrated in the IS, AIS, BIS and NIS machines. The FlexRobot system is mounted on the Blank side Panel and integrated in the FlexIS controls.

The FlexRobot swabs the blank molds and neck-rings The FlexRobot system is offered in cooperation with the supplier Novaxion who has a long experience with Swab Robot systems in glass machines.

For Tandem machine installation, one FlexRobot services the entire Tandem machine.

The supply of integrated FlexRobots is part of Bucher Emhart Glass strategy to provide automation solutions to our customers for increased safety and profitability.

FlexRobot Features

- Consistent swabbing
A robot is perfect for repetitive work, which makes it ideal for swabbing.
- Swab liquid
Amount of swab liquid is decreased by the FlexRobot.
- Increased output
FlexRobot swabs the blank molds “on the fly” which increases the output from the machine.
- Increase mold life time
The lubricant is sprayed inside the molds and there is no contact between spray nozzles and the mold surface, which eliminates wear on the molds
- Gain time for trimming the process
FlexRobot will gain time for the operators to use the process sensor systems for trimming the process to achieve higher output from the machine.
- Reduces risk for accidents
FlexRobot decreases the time the operator needs to interact with the machine and therefore reduces risks for accidents.
- Eliminate strain injuries
During an 8 hour shift an operator performs approximately 700 swab movements, and lifts the arm to activate the manual swab cycle more than 200 times.

Using the FlexRobot avoids repetitive strain injuries.

- Cleaner machine
The small amount of lubricant applied into the closed molds decrease the contamination of the machine.
- Less environmental impact
The small amount of lubricant applied into the closed molds decrease the amount of smoke when swabbing

Application New Machines

IS, AIS, NIS and BIS machines

8, 10 and 12 section machines + tandem machines.

The mechanical interface is included in the 200-5116-00 Lifting Device structure see below:

200-5116-35 12 sect NIS (gr-34 without crane and hoist)

200-5116-33 10 sect NIS (gr-32 without crane and hoist)

200-5116-31 8 sect NIS (gr-30 without crane and hoist)

200-5116-29 12 sect IS, AIS and BIS (gr-28 without crane and hoist)

200-5116-27 10 sect IS, AIS and BIS (gr-26 without crane and hoist)

200-5116-25 8 sect IS, AIS and BIS (gr-24 without crane and hoist)

Note: Crane and hoist is available with the **FlexRobot** system

Electrical **FlexRobot** FlexIS integration parts to specify:

601-573 FlexIS 1 TS-E (IS/AIS) one for two sect

601-617 FlexIS 1 NIS one for two sect

601-615 FlexIS 3 TS-E one for two sect

601-616 FlexIS 3 NIS one for two sect

The kit is mounted into the FlexIS cabinet.

6000-237

Cable between FlexIS Section Controller and **FlexRobot** cabinet for E-Stop circuit.

1 pc 601-115 –XX Ethernet cable cat 6 between interface cabinet and Swab root cabinet

Application Retrofit installations

For retrofit installation where the standard panel 601-416-00 is not installed, the interface plate's kit 200-5182-1 has to be used.

FlexRobot System

The FlexRobot system consists of:

- Robot
- Novaxion Cabinet & Fanuc Cabinet
- Safety Sensors Upright
- Cable Chain & Stand
- Spray Accessories

FlexRobot structure see 607-11-1

Installation Requirements

FlexIS controls requirement:

For full utilization of the FlexIS – FlexRobot integration UC2 is needed. Software v 1.07.03.042 or later (UC1 lacks integrated set up).

- 200 min 230 V AC 50-60 Hz Mono-phase with neutral located max 20 m from the FlexRobot parking position.
 - UPS installed before FlexRobot
 - FlexRobot connected to the UPS power failure backup system
 - Pneumatic supply located at FlexRobot parking position upright
 - Min 3 bar
 - Flow 1000 Normal liter/min
 - Power consumption 0,5 kW
-

Bucher Emhart Glass supply glass forming machines with integrated FlexRobot from our factories in Sweden and Malaysia. The FlexRobot is fully integrated with the FlexIS3, UC2 controls, also available for FlexIS 1, 2 UC1 controls.

Features / Benefits

Features	Benefits
Consistent swabbing	Decreases the amount of swab liquid Reduces risk for accidents Eliminate strain injuries Gain time for trimming process Increase the output